



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200  
Fax 613 632-5246

**D4943-1**  
**Job Sheet 187776**



**Part No:** D4943-1

**Job Qty:** 10 pcs

**Part Name:** Flex Hose



**Part Weight:** 0 lbs

**Status:** New

**Priority:** Medium

**Job Created:** 12/17/18

**Job Tracking No:**

**Due Date:** 1/23/19

**Created By:** Chantal Lavoie

**Type:** Stock

**Description:**

**Note:** DWG REV C IPP REV.A NEW ISSUE JFS 13/09/19 VERIFY BY: DD IPP REV.B 14.05.05 AS PER DWG  
REV.B DD VERF BY:JLM IPP REV:C 14.06.18 AS PER DWG REV.C DD VERF:JLM

**Ship Via:**

### Bill of Materials

### Job Routing

| Op<br>No | Operation                        | Qty    | Start Date | Due<br>Date | Standard     |            | Workcenter/Supplier    | Sign-off     |
|----------|----------------------------------|--------|------------|-------------|--------------|------------|------------------------|--------------|
|          |                                  |        |            |             | Setup<br>Hrs | Run<br>Hrs |                        |              |
| 100      | Purchasing                       | 10 pcs | 1/23/19    |             | 0.00         | 0.00       | Purchasing - 1         | FEB 0 1 2019 |
|          |                                  |        |            |             |              |            | Purchasing - 2         |              |
|          |                                  |        |            |             |              |            | Purchasing - 3         |              |
| 110      | Packaging 2-1 - Receive -<br>B4B | 10 pcs | 1/23/19    |             | 0.00         | 0.00       | Packaging 2 - 1 - B4B  | FEB 0 1 2019 |
|          |                                  |        |            |             |              |            | Packaging 2 - 2 - B4B  |              |
|          |                                  |        |            |             |              |            | Packaging 2 - 3 - B4B  |              |
|          |                                  |        |            |             |              |            | Packaging 2 - 5 - B4B  |              |
|          |                                  |        |            |             |              |            | Packaging 2 - 4 - B4B  |              |
|          |                                  |        |            |             |              |            | Packaging 2 - 6 - B4B  |              |
|          |                                  |        |            |             |              |            | Packaging 2 - 7 - B4B  |              |
|          |                                  |        |            |             |              |            | Packaging 2 - 8 - B4B  |              |
|          |                                  |        |            |             |              |            | Packaging 2 - 9 - B4B  |              |
|          |                                  |        |            |             |              |            | Packaging 2 - 10 - B4B |              |
|          |                                  |        |            |             |              |            | Packaging 2 - 11 - B4B |              |
|          |                                  |        |            |             |              |            | Packaging 2 - 12 - B4B |              |
|          |                                  |        |            |             |              |            | Packaging 2 - 13 - B4B |              |
|          |                                  |        |            |             |              |            | Packaging 2 - 14 - B4B |              |
|          |                                  |        |            |             |              |            | Packaging 2 - 15 - B4B |              |
|          |                                  |        |            |             |              |            | Packaging 2 - 16 - B4B |              |
|          |                                  |        |            |             |              |            | Packaging 2 - 17 - B4B |              |
|          |                                  |        |            |             |              |            | Packaging 2 - 18 - B4B |              |
|          |                                  |        |            |             |              |            | Packaging 2 - 19 - B4B |              |
|          |                                  |        |            |             |              |            | Packaging 2 - 20 - B4B |              |
|          |                                  |        |            |             |              |            | Packaging 2 - 21 - B4B |              |
|          |                                  |        |            |             |              |            | Packaging 2 - 22 - B4B |              |
|          |                                  |        |            |             |              |            | Packaging 2 - 23 - B4B |              |
|          |                                  |        |            |             |              |            | Packaging 2 - 24 - B4B |              |
|          |                                  |        |            |             |              |            | Packaging 2 - 25 - B4B |              |
|          |                                  |        |            |             |              |            | Packaging 2 - 26 - B4B |              |
|          |                                  |        |            |             |              |            | Packaging 2 - 27 - B4B |              |

Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
CANADA  
TEL : 1 613 632-5200  
Email: sales@dartaero.com  
www.dartaerospace.com



**Container No:** S150255



**Part:** D4943-1

**Job No:** 187776

**Serial No/Batch:** S150255

**Revision:**

**Inspector:**

**Exp Date:**

**Instructions:** Various STC's

Date: 02/01/19

Plex 2/1/19 1:31 PM Dart.Hadley.Shannon

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           |                        |                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|--------|---------|-----------|------------------------|------------------------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | Packaging 2 - 28 - B4B |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | Packaging 2 - 29 - B4B |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | Packaging 2 - 30 - B4B |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | Packaging 2 - 31 - B4B |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | Packaging 2 - 32 - B4B |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | Packaging 2 - 33 - B4B |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | Packaging 2 - 34 - B4B |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | Packaging 2 - 35 - B4B |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | Packaging 2 - 36 - B4B | DAS                    |
| 120                                                                                                                                                                                                                                                                                                                                                                                                                                                              | QC 6                        | 10 pcs | 1/23/19 | 0.00 0.00 | QC 6 - 38              | 38                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | QC 6 - 42              | 9-89                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | QC 6 - 9               |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | QC 6 - 68              |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | QC 6 - 61              |                        |
| 130                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Packaging 3-1 - Stock - B4B | 10 pcs | 1/23/19 | 0.00 0.00 | Packaging 3 - 1 - B4B  |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | Packaging 3 - 2 - B4B  |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | Packaging 3 - 3 - B4B  |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | Packaging 3 - 4 - B4B  |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | Packaging 3 - 5 - B4B  |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | Packaging 3 - 6 - B4B  |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | Packaging 3 - 7 - B4B  |                        |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | Packaging 3 - 9 - B4B  |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | Packaging 3 - 10 - B4B |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | Packaging 3 - 11 - B4B |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | Packaging 3 - 12 - B4B |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | Packaging 3 - 13 - B4B |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | Packaging 3 - 14 - B4B |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | Packaging 3 - 15 - B4B |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | Packaging 3 - 16 - B4B |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | Packaging 3 - 17 - B4B |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | Packaging 3 - 18 - B4B |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | Packaging 3 - 19 - B4B |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | Packaging 3 - 20 - B4B |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | Packaging 3 - 21 - B4B |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | Packaging 3 - 22 - B4B |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | Packaging 3 - 23 - B4B |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | Packaging 3 - 24 - B4B |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | Packaging 3 - 25 - B4B |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | Packaging 3 - 26 - B4B |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | Packaging 3 - 27 - B4B | 5-220 B 74 FEB 04 2013 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | Packaging 3 - 28 - B4B |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | Packaging 3 - 29 - B4B |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | Packaging 3 - 30 - B4B |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | Packaging 3 - 31 - B4B |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | Packaging 3 - 32 - B4B |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | Packaging 3 - 33 - B4B |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | Packaging 3 - 34 - B4B |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | Packaging 3 - 35 - B4B |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | Packaging 3 - 36 - B4B |                        |
| 140                                                                                                                                                                                                                                                                                                                                                                                                                                                              | QC 21 - SA                  | 10 pcs | 1/23/19 | 0.00 0.00 | QC 21 - SA - 21        | DAS                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |        |         |           | QC 21 - SA - 70        | 21 FEB 04 2013         |
| Part Op <b>100</b> - Purchasing - Issue P/O: _____ Purchase part #: 12EAS12S-03900F Possible supplier: AERO-FLEX<br>Descriptions: Certificate of conformity is required<br><b>110</b> - Receive & Inspect for Damage & Mat'l Certs - Certificate of conformity is required.<br><b>120</b> - QC6- All purchased or subcontracted products<br><b>130</b> - Identify as per dwg & Stock Location: _____<br><b>140</b> - QC21- Final Inspection - Work Order Release |                             |        |         |           |                        |                        |

**PO Details**

Aero-Flex Corp (aef002-vu)



PO No: PO042072

Line No: 1

**Job BOM**

| Part / Item     | Component Name    | Quantity      | Operation      | Container |
|-----------------|-------------------|---------------|----------------|-----------|
| 12EAS1S2-03900F | Flex Hose D4943-1 | 10 pcs (1 ea) | 100-Purchasing | S150254   |

**Job Allocations**

| Operation      | Component Part  | Required | Inventory | Allocated |
|----------------|-----------------|----------|-----------|-----------|
| 100-Purchasing | 12EAS1S2-03900F | 10       | 0         | 0         |

**Part Specifications**

Specifications could not be found.

Plex 2/1/19 1:31 PM Dart.Hadley.Shannon





Dart Aerospace Ltd.  
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Hawkesbury, ON  
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Canada

Tel (613) 632-5200  
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**D4943-1****Job Sheet 187776****Part No:** D4943-1**Job Qty:** 10 ea**Part Name:** Flex Hose**Part Weight:** 0 lbs**Status:** New**Priority:** Medium**Job Created:** 12/17/18**Job Tracking No:****Due Date:** 1/23/19**Created By:** Chantal Lavoie**Type:** Stock**Description:**

**Note:** DWG REV C IPP REV.A NEW ISSUE JFS 13/09/19 VERIFY BY: DD IPP REV.B 14.05.05 AS PER DWG  
REV.B DD VERF BY:JLM IPP REV:C 14.06.18 AS PER DWG REV.C DD VERF:JLM

**Ship Via:****Bill of Materials****Job Routing**

| Op No | Operation  | Qty    | Start Date | Due Date | Standard  |         | Workcenter/Supplier   |           | Sign-off |
|-------|------------|--------|------------|----------|-----------|---------|-----------------------|-----------|----------|
|       |            |        |            |          | Setup Hrs | Run Hrs | Workcenter / Supplier | Lead Time |          |
| 100   | Purchasing | 10 pcs |            | 1/23/19  | 0.00      | 0.00    | Purchasing            |           |          |
| 110   | Packaging  | 10 pcs |            | 1/23/19  | 0.00      | 0.00    | Packaging2            |           |          |
| 120   | QC         | 10 pcs |            | 1/23/19  | 0.00      | 0.00    | QC6                   |           |          |
| 130   | Packaging  | 10 pcs |            | 1/23/19  | 0.00      | 0.00    | Packaging3-2          |           |          |
| 140   | QC21-SA    | 10 Ea  |            | 1/23/19  | 0.00      | 0.00    | QC21                  |           |          |

Part Op **100** - Issue P/O: 04267 Purchase part #: 12EAS12S-03900F Possible supplier: AERO-FLEX Certificate of Descriptions: conformity is required

**110** - Certificate of conformity is required.

**Job BOM**

| Part / Item     | Component Name | Quantity      | Operation      | Container |
|-----------------|----------------|---------------|----------------|-----------|
| 12EAS1S2-03900F | Flex Hose      | 10 pcs (1 ea) | 100-Purchasing |           |

*CT x 10*

**Job Allocations**

| Operation      | Component Part  | Required | Inventory | Allocated |
|----------------|-----------------|----------|-----------|-----------|
| 100-Purchasing | 12EAS1S2-03900F | 10       | 0         | 0         |

**Part Specifications**

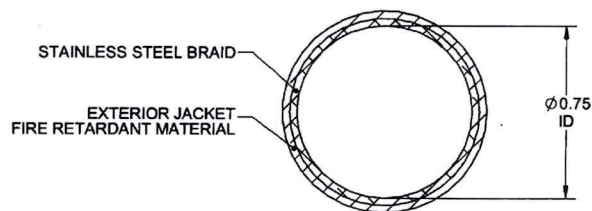
Specifications could not be found.

Plex 12/17/18 9:30 AM dart.lavoie.chantal



# **SPECIFICATION CONTROL DRAWING**

## **D4943-XX FLEX HOSE**



**SECTION A-A  
TUBE BUILD-UP**

| DART P/N | L     | VENDOR    | VENDOR P/N                            | WEIGHT  |
|----------|-------|-----------|---------------------------------------|---------|
| D4943-1  | 40.00 | AERO-FLEX | 12EAS12S-03900F OR<br>12EAS1S2-03900F | 1.3 lbs |



### **NOTES:**

- 1) MATERIAL: BRAID: STAINLESS STEEL PER MANUFACTURER  
JACKET: FIRE RETARDANT MATERIAL PER MANUFACTURER  
END FITTING: STAINLESS STEEL PER MANUFACTURER
- 2) FINISH: N/A
- 3) TOLERANCES: N/A
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: PER QSI 044 6.1.
- 7) WEIGHT: SEE TABLE
- 8) MAXIMUM OPERATING TEMPERATURE 500 °F
- 9) MAXIMUM OPERATING PRESSURE 120 PSI
- 10) END FITTING REQUIREMENTS: FEMALE, 3/4, 37° JIC FITTING (THREAD 1-1/16 UN), WITH LOCKWIRE HOLES

**RELEASED**  
2014-06-16

|            |                                                                                                                 |                                                                                                                                                                                                                                                                          |              |
|------------|-----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| C          | SEE CHART ADDED ADDITIONAL ACCEPTABLE P/N                                                                       | AJS                                                                                                                                                                                                                                                                      | 14.05.01     |
| B          | SEE CHART: VENDOR WAS SWAGelok, VENDOR P/N WAS SS-FJ12TA12AS12-40F. REASON: VENDOR CHANGED FOR LEADTIME ISSUES. | AJS                                                                                                                                                                                                                                                                      | 14.03.14     |
| A          | NEW ISSUE                                                                                                       | AJS                                                                                                                                                                                                                                                                      | 13.09.18     |
| REV.       | DESCRIPTION                                                                                                     | BY                                                                                                                                                                                                                                                                       | DATE         |
| DESIGN     | AS                                                                                                              | <b>DART AEROSPACE LTD</b><br>HAWKESBURY, ONTARIO, CANADA                                                                                                                                                                                                                 |              |
| DRAWN      | AJS                                                                                                             |                                                                                                                                                                                                                                                                          |              |
| CHECKED    | AP                                                                                                              | DRAWING NO.                                                                                                                                                                                                                                                              | REV. C       |
| MFG. APPR. | JLM                                                                                                             | <b>D4943</b>                                                                                                                                                                                                                                                             | SHEET 1 OF 1 |
| APPROVED   | MP                                                                                                              | TITLE                                                                                                                                                                                                                                                                    | SCALE        |
| DE APPR.   | DS                                                                                                              | <b>FLEX HOSE</b>                                                                                                                                                                                                                                                         | NTS          |
| DATE       | 14.05.01                                                                                                        | COPYRIGHT © 2013 BY DART AEROSPACE LTD<br>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD. |              |

APPROVED



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

# PURCHASE ORDER

## PO042072

**Supplier:** AEF002-VU  
Aero-Flex Corp  
3147 Jupiter Park Cir  
Jupiter, FL 33458 USA  
Phone: 561-745-2534  
Fax: 561-745-2537

**PO No:** PO042072

**PO Date:** 12/17/18

**Due Date:** 1/23/19

**Purchase Order**

**Revision:**

**Revision Date:**

**Ship-To Contact:** Tsimiklis, ChrisoulaPhone:

**Ship To:** 1270 Aberdeen Street  
Hawkesbury  
ON  
K6A 1K7 Canada  
Phone: 613-632-5200

**Via:** Ground

**Pynt Terms:** Net 30

**Freight Terms:**

**Special Comments:**

E-MAILED  
DEC 18 2018

| Items        |        |                 |                  |         |                                           |          |         |          |                |                   |         |                  |                |
|--------------|--------|-----------------|------------------|---------|-------------------------------------------|----------|---------|----------|----------------|-------------------|---------|------------------|----------------|
| Line Item    | Job    | Part            | Supplier Part No | Item No | Description                               | Status   | Account | Due Date | Order Quantity | Received Quantity | Balance | Unit Price (USD) | Extended Price |
| 1            | 187776 | 12EAS1S2-03900F |                  |         | Flex Hose D4943-1 As Per Dwg D4943 Rev. C | Firmed - |         | 1/23/19  | 10 pcs         | 0 pcs             | 10 pcs  | \$562.39/pcs     | \$5,623.90     |
| Grand Total: |        |                 |                  |         |                                           |          |         |          |                |                   |         |                  | \$5,623.90     |

### Order Notes

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit [www.dartaerospace.com](http://www.dartaerospace.com) for further explanation.

#### Procurement Quality Clauses

A005 RIGHT OF ENTRY

A007 FIRST ARTICLE INSPECTION (FAI) BY SELLER, (DOCUMENTATION MAINTAINED BY SUPPLIER)

A012 CHEMICAL AND PHYSICAL TEST REPORTS

A016 PERSONNEL QUALIFICATION

A017 RAW MATERIAL IDENTIFICATION (AS APPLICABLE)

A026 CERTIFICATION OF MATERIAL CONFORMANCE

A041 QUALITY MANAGEMENT SYSTEM

A042 DART NOTIFICATION BY SUPPLIER

A043 RETENTION OF QUALITY DOCUMENT

A048 COUNTERFEIT PARTS AVOIDANCE, DETECTION, MITIGATION AND DISPOSITION PROGRAM

A049 SUPPLIER AWARENESS

Plex 12/17/18 2:18 PM dart.tsimiklis.chrisoula



**Aero-Flex Corp.**  
**3147 Jupiter Park Circle**  
**Jupiter FL 33458**

Phone# 561-745-2534 Fax# 561-745-2537  
www.aero-flex.aero



# Packing Slip

## Certificate of Conformance

| Date      | Invoice # |
|-----------|-----------|
| 1/24/2019 | 3117      |

| Bill To                                                              | Ship To                                                                        |
|----------------------------------------------------------------------|--------------------------------------------------------------------------------|
| Dart Aerospace Ltd<br>1270 Aberdeen Street<br>Hawkesbury, ON K6A 1K7 | Dart Aerospace Ltd<br>1270 Aberdeen Street<br>Hawkesbury, ON K6A 1K7<br>Canada |

| AF S.O. #  | Customer P.O. # | Ship Date | Via           | FOB | Project |
|------------|-----------------|-----------|---------------|-----|---------|
| PO042072 ✓ | PO042072        | 1/24/2019 | Fed Ex Ground |     |         |

| Quantity | Item | Part Number/Rev | Description                                                                                              |
|----------|------|-----------------|----------------------------------------------------------------------------------------------------------|
| 10       | 1    | D4943-1 ✓       | FLEX HOSE ASSEMBLY - AF#12EAS1S2-03900F ✓<br><br>PLEASE SHIP ON CUSTOMERS FED EX ECONOMY ACCT# 151793240 |

We hereby certify the above parts, including all materials, have been manufactured, tested and packed in conformance with all requirements of your order and the applicable government specifications and standards. Records of tests, inspections and certification indicating the above conformance are on file at Aero-Flex Corp. available for examination. It is hereby certified that any parts identified with TSO identification (a) were produced under Federal Aviation Administration (FAA) approved manufacturing and quality control system/methods as set forth in the FAA issued Technical Standard Order authorizations (TSO), and (b) such parts and/or materials are new and are in condition for safe operation. If applicable, satisfactory compliance with the conditions and tests required for TSO approval indicates the hose assembly has met the minimum performance standards in this TSO.

It is the responsibility of those desiring to install this hose assembly on an aircraft or engine to determine that the installation will not cause the hose assembly to be subjected to conditions in excess of those for which it has been approved. The hose assembly may only be installed in a manner acceptable to, or approved by, the Administrator.

The above commodities are subject to the Export Administration Regulations (EAR) and/or International Traffic in Arms Regulations (ITAR). If applicable, it is your responsibility to obtain a validated export license for this material from the Department of Commerce or the Department of State if so required under the applicable U.S. Govt. Export Control Regulation. The above material shall not be shipped to any country that has an embargo placed on it by the U.S. Govt or any entity on the U.S. Debarred list. By accepting the items on this PackSlip/C of C/Invoice you agree to Aero-Flex Corp's Terms and Conditions of Sale. These commodities, technology or software were exported from the United States in accordance with Export Administration Regulations. Diversion contrary to U.S. law is prohibited. These items may not be used directly or indirectly in prohibited nuclear, chemical, biological, or missile weapon activities.

**Michael E. Scott**  
**Quality Manager**

Form 4QF015-01  
REV C



**Aero-Flex Corporation**  
 3147 Jupiter Park Circle, Ste. 2  
 Jupiter, Florida 33458  
 Ph 561.745.2534 Fax 561.745.2537



**PRESSURE TESTING / HELIUM MASS SPEC EXAMINATION REPORT**

☒ Aerospace ☐ Ground Support

|                                                                                                                                |                                                                                                                                                                                                                                 |                                   |                                                                       |                             |                                                                                       |
|--------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-----------------------------------------------------------------------|-----------------------------|---------------------------------------------------------------------------------------|
| TO<br>Dart Aerospace LTD                                                                                                       |                                                                                                                                                                                                                                 | FROM<br>Mike Deakter              |                                                                       | DATE<br>01/23/2019          |                                                                                       |
| PROJECT<br>AF Dwg: 12EAS1S2-03900F Dwg Rev: - Part: 12EAS1S2-03900F Part Rev: -                                                |                                                                                                                                                                                                                                 |                                   |                                                                       |                             |                                                                                       |
| PURCHASE ORDER NO.<br>PO42072 Line 1                                                                                           |                                                                                                                                                                                                                                 |                                   | AF ROUTER NO.<br>STK5451                                              |                             |                                                                                       |
| ITEM                                                                                                                           | <input checked="" type="checkbox"/> Weld <input type="checkbox"/> Castings <input checked="" type="checkbox"/> Pipe <input type="checkbox"/> Machined Parts                                                                     |                                   | Other<br>Hose                                                         |                             |                                                                                       |
|                                                                                                                                | <input checked="" type="checkbox"/> Non-Weld <input type="checkbox"/> Castings <input checked="" type="checkbox"/> Pipe <input type="checkbox"/> Machined Parts                                                                 |                                   | Other<br>Hose                                                         |                             |                                                                                       |
| MATERIAL                                                                                                                       | Size<br>3/4"                                                                                                                                                                                                                    | No. of pieces<br>10               | Type of Base Metal<br>AUSS                                            | Type of Filler Metal<br>P8  | WELD<br><input checked="" type="checkbox"/> As Welded <input type="checkbox"/> Smooth |
| LOCATION                                                                                                                       | Location<br>Aero-Flex Corporation                                                                                                                                                                                               |                                   |                                                                       | System<br>PT-001            |                                                                                       |
| Acceptance Standard<br>CUSTOMER                                                                                                |                                                                                                                                                                                                                                 |                                   | Procedure<br>AF 2QP024                                                |                             |                                                                                       |
| TYPE OF CHECK                                                                                                                  | <input checked="" type="checkbox"/> Initial <input type="checkbox"/> In Process <input type="checkbox"/> Rework <input type="checkbox"/> 24 Hr <input type="checkbox"/> 7 Day <input checked="" type="checkbox"/> Final         |                                   |                                                                       |                             |                                                                                       |
| TYPE OF INSPECTION METHOD                                                                                                      | <input checked="" type="checkbox"/> Hydrostatic <input type="checkbox"/> Pneumatic <input type="checkbox"/> Bubble Test <input type="checkbox"/> HMST-Pressurized Components <input type="checkbox"/> HMST-Evacuated Components |                                   |                                                                       |                             |                                                                                       |
|                                                                                                                                | Test Pressure/Vacuum<br>180 PSIG                                                                                                                                                                                                |                                   | Test Temperature<br>75°F Ambient                                      |                             | HMST Test Instrument<br>N/A                                                           |
|                                                                                                                                | Test Medium/Concentration<br>Potable Tap Water                                                                                                                                                                                  |                                   | Bubble Solution<br>N/A                                                |                             | HMST Standard Leak<br>N/A                                                             |
|                                                                                                                                | Gage Mfr.<br>McDaniel                                                                                                                                                                                                           | Model<br>FIP-GF                   | Range<br>0-3000 PSIG                                                  | ID Number<br>AFCG301        | Tracer Gas/Concentration<br>N/A                                                       |
|                                                                                                                                | Soak Time/Test Holding Time<br>10 Minutes Minimum                                                                                                                                                                               |                                   |                                                                       |                             | HMST Sensitivity Acceptance<br>N/A                                                    |
| Reference Summary<br>CUTOMER DRAWING                                                                                           |                                                                                                                                                                                                                                 |                                   | Results of Inspection<br>Satisfactory/Pass<br>No Leaks were Detected. |                             |                                                                                       |
| CopyTo: AF File                                                                                                                |                                                                                                                                                                                                                                 | Requested By<br>PO Contract       |                                                                       | Reported By<br>Mike Deakter |                                                                                       |
| <input type="checkbox"/> Customer Specifications<br><input checked="" type="checkbox"/> Accept <input type="checkbox"/> Reject |                                                                                                                                                                                                                                 | Quality Designee<br>Michael Scott |                                                                       |                             |                                                                                       |

NOTICE: THIS EXAMINATION REPORT IS A REPORT OF THE RESULTS OF THE TEST PROCEDURES ACTUALLY PERFORMED BY THIS COMPANY. IT IS SUBJECT TO THE LIMITATIONS OF THE TESTING SPECIFICATIONS AND PROCEDURES WHICH WERE UTILIZED. BY FURNISHING THIS REPORT, AERO-FLEX CORPORATION DOES NOT GUARANTEE ANY CONDITION OF THE TESTED SPECIMEN.

**Aero-Flex Corporation**  
**3147 Jupiter Park Circle, Ste. 2**  
**Jupiter, Florida 33458**  
**Ph 561.745.2534 Fax 561.745.2537**



**LIQUID PENETRANT EXAMINATION REPORT**

☒ Aerospace ☐ Ground Support

|                                                                                                                                |                                                                                                                                                                                                                                                                                                            |                                                |                                                                              |                                                                    |                                                                                    |
|--------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|------------------------------------------------------------------------------|--------------------------------------------------------------------|------------------------------------------------------------------------------------|
| <b>TO</b><br>Dart Aerospace LTD                                                                                                |                                                                                                                                                                                                                                                                                                            | <b>FROM</b><br>Michael Scott                   |                                                                              | <b>DATE</b><br>01/23/2019                                          |                                                                                    |
| <b>PROJECT</b><br>P/N 12EAS1S2-03900F                                                                                          |                                                                                                                                                                                                                                                                                                            |                                                |                                                                              |                                                                    |                                                                                    |
| <b>PURCHASE ORDER NO.</b><br>PO42072                                                                                           |                                                                                                                                                                                                                                                                                                            |                                                | <b>AFC JOB NO.</b><br>STK5451                                                |                                                                    |                                                                                    |
| <b>ITEM</b>                                                                                                                    | <input checked="" type="checkbox"/> Weld <input type="checkbox"/> Structural <input type="checkbox"/> Castings <input type="checkbox"/> Machinery <input type="checkbox"/> Pipe <input checked="" type="checkbox"/> Machined Parts                                                                         |                                                |                                                                              |                                                                    | Other<br>Hose                                                                      |
|                                                                                                                                | <input checked="" type="checkbox"/> Non-Weld <input type="checkbox"/> Plate <input type="checkbox"/> Pipe <input type="checkbox"/> Bar <input type="checkbox"/> Castings <input checked="" type="checkbox"/> Machined Parts                                                                                |                                                |                                                                              |                                                                    | Other<br>Hose                                                                      |
| <b>MATERIAL</b>                                                                                                                | Size<br>-12                                                                                                                                                                                                                                                                                                | No. of pieces<br>10<br>Assy                    | Type of Base Metal<br>CRES                                                   | Type of Filler Metal<br>CRES                                       | <input checked="" type="checkbox"/> WELD As Welded <input type="checkbox"/> Smooth |
| <b>LOCATION</b>                                                                                                                | Location<br>Aero-Flex Corporation                                                                                                                                                                                                                                                                          |                                                |                                                                              | System<br>AF Quality/Clean Station                                 |                                                                                    |
| <b>Acceptance Standards</b><br>D17.1 CL B                                                                                      |                                                                                                                                                                                                                                                                                                            |                                                | <b>Procedure</b><br>ASTM E1417 Type I, Method C, Sensitivity Level 3, Form A |                                                                    |                                                                                    |
| <b>TYPE OF CHECK</b>                                                                                                           | <input checked="" type="checkbox"/> Initial <input type="checkbox"/> Plate Edge <input type="checkbox"/> In Process <input type="checkbox"/> Back Gouge Root Pass <input type="checkbox"/> Repair <input type="checkbox"/> 24 Hr. <input type="checkbox"/> 7 Day <input checked="" type="checkbox"/> Final |                                                |                                                                              |                                                                    |                                                                                    |
| <b>TYPE OF INSPECTION METHOD</b>                                                                                               | <input type="checkbox"/> Color Contrast <input checked="" type="checkbox"/> Fluorescent Penetrant                                                                                                                                                                                                          |                                                |                                                                              |                                                                    |                                                                                    |
|                                                                                                                                | Pre-Test Cleansing Method/Solution<br>Stainless Wire Brush                                                                                                                                                                                                                                                 |                                                |                                                                              | Penetrant Application Method/Penetrant<br>Brush / Magnaflux ZL-27A |                                                                                    |
|                                                                                                                                | Penetrant Removal Method/Remover<br>Wipe / Magnaflux SKC-S                                                                                                                                                                                                                                                 |                                                |                                                                              | Penetrant Time<br>15 Minutes                                       | Penetrant Specimen/Surface Temperature<br>75°F Ambient                             |
|                                                                                                                                | Penetrant Emulsifier Method/Emulsifier<br>N/A                                                                                                                                                                                                                                                              |                                                |                                                                              | Developer Application Method/Developer<br>Spray / Magnaflux ZP-9F  |                                                                                    |
|                                                                                                                                | Developing Time<br>10 Minutes                                                                                                                                                                                                                                                                              |                                                |                                                                              | Final Cleaning Method/Solution<br>Spray & Wipe / Magnaflux SKC-S   |                                                                                    |
|                                                                                                                                | <b>Reference Summary</b><br>Performed Fluorescent Penetrant Examination of Fitting to Hose Weld at each end of Hose Assembly.<br><br>Customer Drawing D4943 Rev C                                                                                                                                          |                                                |                                                                              |                                                                    |                                                                                    |
| <b>Results of Inspection</b><br><br>No Relevant Indications were noted.                                                        |                                                                                                                                                                                                                                                                                                            |                                                |                                                                              |                                                                    |                                                                                    |
| <b>Copy to:</b><br>Job File                                                                                                    |                                                                                                                                                                                                                                                                                                            | <b>Requested By</b><br>Michael Deakter         |                                                                              | <b>Reported By</b><br>Michael E. Scott                             |                                                                                    |
| <input type="checkbox"/> Customer Specifications<br><input checked="" type="checkbox"/> Accept <input type="checkbox"/> Reject |                                                                                                                                                                                                                                                                                                            | <b>QA/QC Manager</b><br>Michael E. Scott / LII |                                                                              |                                                                    |                                                                                    |

NOTICE: THIS EXAMINATION REPORT IS A REPORT OF THE RESULTS OF THE NDE PROCEDURES ACTUALLY PERFORMED BY THIS COMPANY. IT IS SUBJECT TO THE LIMITATIONS OF THE TESTING SPECIFICATIONS AND PROCEDURES WHICH WERE UTILIZED. BY FURNISHING THIS REPORT, AERO-FLEX CORPORATION DOES NOT GUARANTEE ANY CONDITION OF THE TESTED SPECIMEN.



Page 1 of 1

## Page 101

1

|                  |                        |
|------------------|------------------------|
| ITEM NUMBER      | JT1375044S304030300000 |
| CUST PART ID     | PTC SPEC# 626          |
| QUANTITY         | 2500 FT                |
| NUMBER OF PIECES | 250                    |
| MELT ORIGIN      | USA                    |

MADE IN USA  
POSITIVE MATERIAL ID CR (ASTM E1476)

0.0028  
0.0038

Visual test - PASS

[illegible]

10/2/1970

[illegible]





COMBINED METALS OF CHICAGO  
2401 W GRANT  
BELLWOOD IL 60104  
Phone: (708)547-8800  
Fax: (708)547-1037  
http://www.combmet.com

| CMC ORDER NO. | YOUR P.O. NO. | LOT CODE | Page No. |
|---------------|---------------|----------|----------|
| 98725         | 901272        | 52656    | 1 of 1   |

MATERIAL TEST CERTIFICATE  
EN 10204:2004 - 3.1

190103B

32648  
EAT ID#

| CUSTOMER                                                               | PRODUCT                                                                                                                                     | SPECIFICATION                                                                                                                       |
|------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| U.S. HOSE CORPORATION<br>815 FORESTWOOD DRIVE<br>ROMEIOVILLE, IL 60446 | 321 CA2 ANNEALED COIL<br>Thickness(In.): .015+/- .0005(.0145/.0155)<br>Width: 3.474+/- .003<br>Customer Part #: 01-16-014-13<br>UNS: S32100 | USHO SF-MS01-321-Type1 321 Rev#1<br><br>There are exceptions to the above specifications. See the min/max ranges below for details: |

| HEAT NUMBER | MASTER TAG # | COIL ID  | QTY SHIPPED | MILL SOURCE              | MELT COUNTRY | ORIGIN COUNTRY |
|-------------|--------------|----------|-------------|--------------------------|--------------|----------------|
| 637V        | 9923WQ       | 01637VAA | 340         | NORTH AMERICAN STAINLESS | USA          | USA            |

| SHIP TAG NUMBERS |
|------------------|
| 992FSG (340 lbs) |

| CHEMICAL ANALYSIS % PULLED FROM MILL SOURCE (WEIGHT PERCENT) per ASTM E1086 |       |       |       |       |       |         |        |        |         |     |        |        |       |        |
|-----------------------------------------------------------------------------|-------|-------|-------|-------|-------|---------|--------|--------|---------|-----|--------|--------|-------|--------|
| C                                                                           | Mn    | P     | S     | Si    | Cr    | Ni      | Mo     | Cu     | Ti      | Al  | N      | Co     | B     |        |
| Min                                                                         |       |       |       |       | 17    | 9       |        |        | 5x(C+N) |     |        |        |       |        |
| Max                                                                         | 0.08  | 2     | 0.045 | 0.03  | 0.75  | 19      | 12     |        | 0.7     |     | 0.1    |        |       |        |
| Actual                                                                      | 0.012 | 1.548 | 0.03  | 0.001 | 0.323 | 17.0615 | 9.0305 | 0.2225 | 0.3715  | 0.2 | 0.0395 | 0.0167 | 0.149 | 0.0004 |
|                                                                             |       |       |       |       |       |         |        |        |         |     |        |        |       |        |
| Cb DELFER Ni+Co                                                             |       |       |       |       |       |         |        |        |         |     |        |        |       |        |

0.006 4.5598 9.1795

| Mechanical and Physical Properties per ASTM E8 |            |                  |                    |           |          |             |           |          | Surface Roughness Type:      |        |       |          |       |        |
|------------------------------------------------|------------|------------------|--------------------|-----------|----------|-------------|-----------|----------|------------------------------|--------|-------|----------|-------|--------|
| ASTM A262 Method E:                            |            |                  | Bend Test Results: |           |          |             |           |          |                              |        |       |          |       |        |
| Head                                           |            |                  | Head               |           |          | Tail        |           |          |                              |        |       |          |       |        |
| HRBW                                           | Grain Size | Test Dir. Trans. | Tensile PSI        | Yield PSI | Elong. % | Tensile PSI | Yield PSI | Elong. % |                              | Head   |       |          |       |        |
|                                                |            |                  |                    |           |          |             |           |          |                              | Long   | Trans |          |       |        |
|                                                | 7          | Min              | 74694              | 29733     | 50       | 74694       | 29733     | 50       | Min                          |        |       | Micro mm |       |        |
| 168                                            | 10         | Max              |                    | 40611     |          |             | 40611     |          | Max                          |        |       | Micro mm |       |        |
| 66.7                                           | 9          | Actual           | 85000              | 33300     | 60       |             |           |          | Actual                       |        |       | Micro mm |       |        |
| Tail                                           |            |                  | Head               |           |          | Tail        |           |          | Inclusion Rating Test Method |        |       |          |       |        |
| HRBW                                           | Grain Size | Test Dir. Long.  | Tensile PSI        | Yield PSI | Elong. % | Tensile PSI | Yield PSI | Elong. % |                              |        |       |          |       |        |
|                                                | 7          | Min              |                    |           |          |             |           |          | Type A                       | Type B |       | Type C   |       | Type D |
| 168                                            | 10         | Max              |                    |           |          |             |           |          | Thin                         | Thin   | Thin  | Thin     | Thin  |        |
| 68.3                                           |            | Actual           |                    |           |          |             |           |          | Thick                        | Thick  | Thick | Thick    | Thick |        |

|                |                                                                                                                        |
|----------------|------------------------------------------------------------------------------------------------------------------------|
| Testing Source | Chemistry from mill source listed above. Mechanical Properties taken from A2LA approved lab. Reference Lot Code above: |
| Comments       | ROHS COMPLIANT                                                                                                         |

01-16-014-13

Po# 901272

WE HEREBY CERTIFY THE MATERIAL SHIPPED TO THE ABOVE-SPECIFIED SPECIFICATION CONFORMS TO THE STATED CHEMICAL AND PHYSICAL REQUIREMENT TERMS AND PROCESSED FREE OF MERCURY (UNLESS OTHERWISE STATED). THIS DOCUMENT SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF ELGILOY SPECIALTY METALS. THE RECORDING OF FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS OF ENTRIES ON THIS DOCUMENT MAY BE A PUNISHABLE OFFENCE UNDER FEDERAL AND STATE LAW

| INSPECTORS STAMP                                 |  | DATE | 07-23-18 |
|--------------------------------------------------|--|------|----------|
| AUTHORIZED SIGNATURE: <i>Fred C. Donofrio</i>    |  |      |          |
| Fred Donofrio, GENERAL MANAGER QUALITY ASSURANCE |  |      |          |



US HOSE CORP.  
ORDER# 220661  
REFERENCE# 181220EH3  
LINE# 1  
PART# 0320-048-500

# VENUS WIRE INDUSTRIES PRIVATE LIMITED

REGD. OFFICE : 19 RACHIE VANSHI MILL COMPOUND, S. B. MARG, LOWER PAREL, MUMBAI 400 011, (INDIA)  
 TEL.: +91(22)26451000/24978640 FAX: +91(22)26451045/24978646 E-MAIL: info@venuswire.com WEBSITE: www.venuswire.com



ISO: 9001:2008  
 CERTIFIED

INSPECTION / MILL / MATERIAL / QUALITY / EN 10204/3.1 CERTIFICATE  
 No. WD/VW/2017-18/1412

|                                                                      |  |                               |
|----------------------------------------------------------------------|--|-------------------------------|
| <b>CUSTOMER</b> : US HOSE CORPORATION, U.S.A.                        |  | <b>GRADE</b> : SF-321-W       |
| <b>INVOICE NO.</b> : PM/170557                                       |  | <b>HEAT NO.</b> : V11940      |
| <b>PRODUCT FORM</b> : STAINLESS STEEL WIRE                           |  |                               |
| <b>DIMENSION</b> : 0.0126" Tol: ±0.0003"                             |  | <b>QUANTITY</b> : 2914.09 LBS |
| <b>IDENTIFICATION</b> : BOX NO. : NN 1884-1885, SPOOL NO. : SC 01-64 |  |                               |
| <b>CONDITION</b> : BRIGHT ANNEALED                                   |  |                               |

| ELEMENTS  | C %   | SI %  | Mn %  | P %   | S %   | Cr %  | Ni %  | Cu % | Mo % | N % | Nb % | Ti %  | --- |
|-----------|-------|-------|-------|-------|-------|-------|-------|------|------|-----|------|-------|-----|
|           |       |       |       |       |       |       |       |      |      |     |      |       |     |
| MIN       | 0.080 | 1.000 | 2.000 | 0.045 | 0.030 | 19.00 | 12.00 | ---  | ---  | --- | ---  | 0.800 | --- |
| SPECIFIED | ---   | ---   | ---   | ---   | ---   | ---   | ---   | ---  | ---  | --- | ---  | ---   | --- |
| RESULTS   | 0.019 | 0.42  | 1.60  | 0.037 | 0.003 | 17.20 | 9.00  | ---  | ---  | --- | ---  | 0.23  | --- |

## MECHANICAL PROPERTIES

| RESULTS   | DIAMETER | UTS    | YS (0.2%) | R.A. % | ELONGATION % | HARDNESS | --- |
|-----------|----------|--------|-----------|--------|--------------|----------|-----|
|           |          |        |           |        |              |          |     |
| MIN       | 0.0123   | 100077 | 36260     | NA     | 35.00        | NA       | --- |
| SPECIFIED | 0.0129   | 123283 | 56565     | NA     | ---          | ---      | --- |
| MAX       | 0.0125   | 104159 | 47013     | ---    | 38.00        | ---      | --- |

HEAT TREATMENT : \* STRAND ANNEALED AT 1050°C.

## REMARKS

- \* MATERIAL IS FREE FROM MERCURY CONTAMINATION.
- \* MATERIAL IS AS PER CUSTOMER SPECIFICATION SF-MS03 REV.C
- \* CERTIFICATE ACC TO EN 10204/3.1b (FORMERLY DIN 50499 3.1).
- \* CUSTOMER ORDER NO: 801065, DATE: 03-04-2017.
- \* PART NO: 75-16-012-01.

US HOSE CORP.

ORDER# 218722  
 REFERENCE 18105472

LINE#  
 PART# 0903-115-090

WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MANUFACTURED AND TESTED WITH SATISFACTORY RESULTS IN ACCORDANCE WITH THE CUSTOMERS REQUIREMENTS. MECHANICAL TEST RESULTS ARE TAKEN RANDOMLY FROM THE LOT.

DATE: 11/07/2017



SHAILENDRA SHARMA  
 (WORK INSPECTOR)

PLANT : ATKARGAON, TAKAI ADOSHI ROAD, KHALAPUR, KHOPOLI-410203.  
 PHONES : +91 (2192)304800/263404/262612 FAX : +91 (2192) 304830/268873

DOC.No. FQAD/06.R4

801065  
 75-16-012-01

291027

1810227



190103C



# VENUS WIRE INDUSTRIES PRIVATE LIMITED

REGD. OFFICE: 19 RAGHUVANSHI MILL COMPOUND, S. B. MARG, LOWER PAREL, MUMBAI 400 013, (INDIA)  
TEL.: +91 (22) 30451000/24978840 FAX: +91 (22) 30451045/24978846 E-MAIL: wqi@venuswire.com WEBSITE: www.venuswire.com

ISO 9001:2015  
CERTIFIED

INSPECTION / MILL / MATERIAL / QUALITY / EN 10204/3.1 CERTIFICATE

No. WD/VW/2018-19/1812

|                       |                              |                                                       |                 |        |                         |          |       |       |       |       |       |                    |            |          |              |  |
|-----------------------|------------------------------|-------------------------------------------------------|-----------------|--------|-------------------------|----------|-------|-------|-------|-------|-------|--------------------|------------|----------|--------------|--|
| PRODUCT INFORMATION   | CUSTOMER                     | : US HOSE CORPORATION, U.S.A.                         |                 |        |                         |          |       |       |       |       |       | GRADE              | : SF-321-W |          |              |  |
|                       | INVOICE NO.                  | : PM/180603                                           |                 |        |                         |          |       |       |       |       |       | HEAT NO.           | : V12468   |          |              |  |
|                       | PRODUCT FORM                 | : STAINLESS STEEL WIRE                                |                 |        |                         |          |       |       |       |       |       |                    |            |          |              |  |
|                       | DIMENSION                    | : 0.0126"                                             |                 |        |                         |          |       |       |       |       |       | Tol: $\pm 0.0003"$ |            | QUANTITY | : 7047.6 LBS |  |
|                       | IDENTIFICATION               | : BOX NO.: NN 2084, NN 2093-2096, SPOOL NO.: HP01-146 |                 |        |                         |          |       |       |       |       |       |                    |            |          |              |  |
| CHEMICAL COMPOSITION  | CONDITION : BRIGHT ANNEALED. |                                                       |                 |        |                         |          |       |       |       |       |       |                    |            |          |              |  |
|                       | ELEMENTS                     | C%                                                    | Si%             | Mn %   | P%                      | S%       | Cr %  | Ni %  | Cu%   | Mo %  | N%    | Nb%                | Ti%        |          |              |  |
|                       | SPECIFIED                    | MIN                                                   | MAX             | 0.080  | 1.000                   | 2.000    | 0.045 | 0.030 | 17.00 | 9.000 | ---   | ---                | ---        | 5 x C    |              |  |
|                       | RESULTS                      |                                                       |                 | 0.019  | 0.48                    | 1.66     | 0.036 | 0.002 | 17.38 | 9.04  | ---   | ---                | ---        | 0.800    |              |  |
| MECHANICAL PROPERTIES |                              |                                                       |                 |        |                         |          |       |       |       |       |       |                    |            |          |              |  |
| RESULTS               | DIAMETER (INCH)              | UTS (PSI)                                             | YS (0.2%) (PSI) | R.A. % | ELONGATION % (G.L. 10") | HARDNESS |       |       |       |       |       |                    |            |          |              |  |
| SPECIFIED             | MIN                          | MAX                                                   | 0.0123          | 0.0129 | 100077                  | 123283   | 36260 | 56565 | NA    | NA    | 35.00 | NA                 | NA         |          |              |  |
| SPOOL NO :- HP 73     |                              |                                                       | 0.0126          |        | 107956                  |          | 45651 |       | --    |       | 40.00 | --                 |            |          |              |  |

HEAT TREATMENT : \* STRAND ANNEALED AT 1050°C.

## REMARKS

- \* MATERIAL IS FREE FROM MERCURY CONTAMINATION.
- \* MATERIAL IS AS PER CUSTOMER SPECIFICATION SF-MS03 REV.C
- \* CERTIFICATE ACC TO EN 10204/3.1b (FORMERLY DIN 50049 3.1).
- \* CUSTOMER ORDER NO: 503253, DATE: 29-06-2018.
- \* PART NO : 75-16-012-01.

US HOSE CORP.  
ORDER# 220661  
REFERENCE 181220EH3  
LINE# 2  
PART# 0903-113-600

US: C  
QC13

WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MANUFACTURED AND TESTED WITH SATISFACTORY RESULTS IN ACCORDANCE WITH THE CUSTOMER'S REQUIREMENTS. MECHANICAL TEST RESULTS ARE TAKEN RANDOMLY FROM THE LOT.

DATE: 31/07/2018



SHAILENDRA SHARMA  
(WORK INSPECTOR)

DC.No. F/QAD/06/R4

PLANT : ATKARGAON, TAKAI ADOSHI ROAD, KHALAPUR, KHOPOLI- 410203.  
PHONES : +91 (2192) 304800/263404/262612 FAX : +91 (2192) 304850/268873

HEAT ID#

33085

75-16-012-01  
563253  
147 V12468



W 8103 Red Bluff Road  
Pasadena, TX 77507  
B] 832-456-2000  
F] 832-456-2005

## Material Test Report

May 14, 2018

| Customer              | Purchase Order | Invoice | Specification               | Material Grade / Type      |
|-----------------------|----------------|---------|-----------------------------|----------------------------|
| Aero-Flex Corporation | 180511EH       | 143030  | ASTM A479MOD<br>CONDITION B | 316/316L STAINLESS HEX BAR |

### Chemical Composition (%)

| HCN<br>(Heat Code No) | Spec | C     | Si    | Mn    | P      | S      | Cr     | Mo    | Ni     | Cu   |  |  |  |
|-----------------------|------|-------|-------|-------|--------|--------|--------|-------|--------|------|--|--|--|
|                       | Min  | -     | -     | -     | -      | -      | 16.00  | 2.00  | 10.00  | -    |  |  |  |
|                       | Max  | 0.03  | 1.00  | 2.00  | 0.045  | 0.03   | 18.00  | 3.00  | 14.00  | -    |  |  |  |
| 4690L2                | 01   | 0.021 | 0.544 | 1.741 | 0.0289 | 0.0161 | 16.742 | 2.025 | 10.537 | 0.48 |  |  |  |

### Mechanical Properties

| HCN<br>(Heat Code No) | Spec | TS<br>N/mm2 | YS<br>N/mm2 | EL<br>% | RA<br>% | Hardness<br>HB |  |  | Size: 31.75MM<br>Condition: ANNEALED |
|-----------------------|------|-------------|-------------|---------|---------|----------------|--|--|--------------------------------------|
|                       |      | MIN         | MIN         | MIN     | MIN     |                |  |  |                                      |
|                       |      | 725         | 450         | 20      | 35      |                |  |  |                                      |
| 4690L2                | 01   | 784.5       | 706.8       | 26.8    | 62.4    | 103.2          |  |  |                                      |

180516B

Item: SHFWO-12FJ

Batch No: 1348

We hereby certify that the material has been tested and complies with the specifications as stated.

Approved By: *Jena Cockrell*



**MATERIAL TEST REPORT (MTR) for 316 / 316L SS PRODUCT SHIPPED:**  
**CERTIFICATE OF CONFORMANCE TO EN10204 & DIN50049, Type 2.2/3.1****Fittings****Customer (Sold To)**

|                             |
|-----------------------------|
| AERO-FLEX                   |
| 3147 JUPITER PARK CR STE #2 |
| JUPITER FL 33458            |
|                             |
|                             |

**Customer P.O.**

181220EH2

**SSP Order No.**

2818145

**Date:**

12/20/2018

**Product Category****Fittings**

| Item | Quantity | Part Number | Heat Code(s) |
|------|----------|-------------|--------------|
| 1    | 20       | 3/4BHJSE12  | .RA KWM      |

SSP hereby certifies that all materials used in the manufacture of parts supplied conform to the material and/ or manufacturing specifications cited on the purchase order, catalogs and Certificate of Conformance.

This MTR complies with the non-specific inspection requirements of EN 10204. It does not apply to hardware items such as springs, o-rings, gaskets, snap rings, balls, jam or lock nuts, handles, lanyards, etc.

All products are cleaned and packaged in accordance with SSP specifications.

In accordance with the provisions of **Directive 2011 / 95 / EC (RoHS II)**, all SSP products and packaging are in conformance with the requirements of this directive, and contain less than the limiting levels of restricted hazardous substances:

Lead (Pb), Mercury (Hg), Hexavalent Chromium [Cr(VI)], Cadmium (Cd), Polybromated flame retardants [Biphenyl (PBB) or dephenyl ether (PBDE)], or Perfluorooctane sulfonate compounds (PFOS).

No mercury was used in directly-connected manometers, seals, pumps, or glass thermometers, nor has mercury been handled in the immediate vicinity, during any stage of production or testing.

Also all SSP products and packaging are in conformance with the requirements of REACH / SVHC.

All products manufactured by SSP are Asbestos-free.

Typical mechanical and chemical analysis of the material used in the manufacture of SSP products are listed below. These values are average values confirmed by examination of certified material test reports and authenticated through non-destructive x-ray fluorescence inspection.

**MATERIAL STANDARD**

| COMPONENT | MATERIAL      | STANDARDS                                                                                  |
|-----------|---------------|--------------------------------------------------------------------------------------------|
| Forged    | 316 / 316L SS | 316 / 316L SS, UNS S31600/S31603, EN 10088-3 1.4401/1.4404ASTM A182 A479, A484, ASME SA479 |
| Bar stock | 316 / 316L SS | 316 / 316L SS, UNS S31600/S31603, ASTM A182 A479, A484, ASME SA479                         |

**MECHANICAL PROPERTIES**

| COMPONENT | YIELD STR.<br>(ksi / MPa) | TENSILE STR.<br>(ksi / MPa) | ELONG. (%) | RED. AREA<br>(%) | HARDNESS<br>HRB | HB    |
|-----------|---------------------------|-----------------------------|------------|------------------|-----------------|-------|
| Forged    | 71.8 / 495                | 96.2 / 663                  | 41.8       | 73.9             | 82              | 192   |
| Bar stock | 81.4 / 561                | 98.4 / 678                  | 36.1       | 73.5             |                 | 197.5 |

**CHEMICAL ANALYSIS**

| COMPONENT | C    | Cr    | Mn   | Mo   | N    | Ni    | P    | S    | Si   | Cu   |
|-----------|------|-------|------|------|------|-------|------|------|------|------|
| Forged    | 0.02 | 16.69 | 1.51 | 2.04 | 0.03 | 10.72 | 0.03 | 0.03 | 0.51 | 0.65 |
| Bar stock | 0.02 | 16.73 | 1.59 | 2.05 | 0.02 | 11.13 | 0.02 | 0.03 | 0.58 | 0.8  |

NOTE: Austenitic stainless steel material has passed the Intergranular Corrosion Test requirements of ASTM A262, Practice A.

Quality Assurance

Engineering

## CONFORMANCE CERTIFICATE FOR MATERIAL SHIPPED



Shipment Date 10/15/18  
Sales Order Number SO68245

Customer Aero-Flex Corp.  
Purchase Order 181011EH

OmegaOne certifies that all material used in the manufacture of parts shipped on referenced purchase order, conform to the material and or manufacturing specifications indicated in drawings or specifications as called for on purchase order. OmegaOne products are by standard manufactured in compliance with SAE J514 and related and applicable standards.

In production of items listed below, no contact was made with any mercury containing devices or any of its compounds. All parts listed below were manufactured in the United States of America.

OmegaOne also certifies that the parts listed below are manufactured in accordance with the drawings or specifications called for on said purchase order.

| <u>Item</u> | <u>Quantity</u> | <u>Item</u> | <u>Description</u> | <u>Heat Code</u> | <u>Lot #</u> | <u>DFAR</u> |
|-------------|-----------------|-------------|--------------------|------------------|--------------|-------------|
| 1           | 100             | D-59 SS     | MTR'S REQUIRED     | 853552           |              | Yes         |

181013A

The above parts were manufactured from material conforming to the requirements of DFAR252.225.7014.

Amy Osborne Customer Service 10-15-18  
Submitted By Title Date

AMFM Inc., dba OmegaOne  
Corporate Offices: 38373 Pelton Road, Willoughby, Ohio 44094  
1-800-333-2636 www.Omega1.com

DAE  
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